Amendment to Specification

Please amend paragraph [36] as follows:

The fuel injection system 10 and fuel injectors 14 of the present invention are generally applicable to any internal combustion engine. However, the present invention finds particular applicability in relation to compression ignition engines in which the injector tip is partially positioned in the engine cylinder for direct injection into the combustion space. Nevertheless, those skilled in the art will appreciate that the present invention could find potential application in other engines, including but not limited to spark ignition engines. The present invention finds particular applicability to compression ignition engines because of its ability to advantageously produce two different spray patterns depending upon how the engine is being operated. For instance, under relatively low load conditions, it might be desirable to operate the engine in a pure homogenous charge fashion in which fuel is injected relatively early in the engine cycle when the engine piston is closer to a bottom dead center position than a top dead center position. As the piston continues moving upward, the fuel charge preferably thoroughly mixes with air in the cylinder to produce relatively lean homogenous mixture that spontaneously combusts when the engine piston nears its top dead center position. When the engine is being operated at relatively high speeds and loads, it might be desirable to operate the fuel injection system in a conventional mode in which fuel is sprayed into the engine cylinder in a conventional spray pattern when the engine piston is at or near its top dead center position. In between these two extremes, it might be desirable to operate the fuel injection system in a mixed mode in which some fuel is injected through the homogenous charge nozzle outlet set early in the engine cycle and then later in the engine cycle additional fuel is injected via the conventional nozzle outlet set when the engine piston is at or near its top dead center position. Fuel can also be sprayed through both nozzle outlet sets simultaneously, if desired. Testing has shown that having the ability to produce those different spray patterns at any desirable timing in the engine cycle can

allow for an overall reduction in undesirable emissions, which include NOx, unburned hydrocarbons and ~~particles~~particulates. Thus, the fuel injection system of the present invention allows for different spray patterns that can be produced independently or simultaneously at any desired timing independent of engine speed and crank angle at a wide range of injection pressures that can be obtained through control of fuel pressure in the common fuel rail.